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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,271	04/05/2001	Vijayan Rajan	5693p286	6350

48102 7590 03/28/2007

NETWORK APPLIANCE/BLAKELY
12400 WILSHIRE BLVD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER	
VO, LILIAN	
ART UNIT	**PAPER NUMBER**
2195	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/828,271	RAJAN ET AL.	
	Examiner	Art Unit	
	Lilian Vo	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/8/07*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 – 24 and 26 - 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 – 24 and 26 - 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 24 and 26 - 29 are pending. Claim 25 has been cancelled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 –9, 11 – 15, 17 – 21, 23, 24 and 26 - 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis (US 6,378,066).

4. Regarding **claim 1**, Lewis discloses a method including:

scheduling tasks from a set of tasks for running on a plurality of processors, wherein each task of the set of tasks is associated with one of a plurality of scheduling domains, at least one of the scheduling domains being associated with at least two tasks of the set of tasks (col. 3, line 51 – col. 4, line 7: each dependency indicates a relationship between two blocks and requires the portion of the program associated with the one of the two blocks to be executed before the portion of the program associated with the other block. Col. 12 lines 15 – 35: dependency is fixed and Fig. 12A) and a resource shared by the at least two tasks (figs. 8, 9, 10A and 10B, col. 5 lines 50 – 55: "…for each block, the developer specifies the program code to be executed on the values within the block as any dependency between the block and other blocks in the region.

Blocks with the same program code are said to share the same 'state'". Col. 12 lines 24 – 46: a set of blocks 1204 (or state)); and wherein tasks within each of the scheduling domains can be run on different processors but are prohibited from running concurrently even if run on different processors (col. 12 lines 15 – 35 and fig. 12A); and

allowing a plurality of tasks of the set of tasks to run concurrently in different scheduling domains (col. 3, line 51 – col. 4, line 7: any portion of the program/function associated with a block that is not depending on a result of other block can be executed in parallel. Col. 5, lines 54 – 57, col. 10, lines 14 - 17).

With respect to scheduling domains, Lewis discloses the "dependencies among the blocks are specified by the user. Each dependency indicates a relationship between two blocks and requires the portion of the program associated with one of the two bocks to be executed before the portion of the program associated with the other block" (col. 3 line 51 – col. 4 line 7. Col. 12 lines 15 – 35). With respect to the limitation in which tasks within each scheduling domain are prohibited from running concurrently, Lewis discloses that if a thread determines that a selected block is dependent upon the execution of program code with respect to other block(s) that has/have not been executed, the thread skips the selected block (col. 3, line 51 – col. 4, line 7, col. 10, lines 10 –14, fig. 9). Therefore, it would have been obvious to one of an ordinary skill in the art that Lewis's system does not execute function(s) among the block(s) concurrently to satisfy the dependency relationship between the blocks (col. 3, lines 51 – 55).

5. Regarding **claim 2**, Lewis discloses the step of changing said association for at least one task from a first to a second scheduling domain (Col. 12 lines 15 – 46).

6. Regarding **claim 3**, Lewis discloses the step of selecting for running at least one task associated with a plurality of said scheduling domains (col. 5, line 65 – col. 6, line 6).

7. Regarding **claim 4**, with respect to the limitation of selecting for running at least one task not associated with any one of said scheduling domains, it would have been obvious to one of an ordinary skill in the art that Lewis' system is also running/executing system related functions/tasks which is not associated with any one of the blocks in order to keep the system properly function and avoid wasting of computing resource.

8. **Claims 5 – 9, 11 – 15, 17 – 21, 23, 24 and 26 - 28** are rejected on the same ground as stated in claims 1 – 4 above.

9. Claims 10, 16, 22 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis (US 6,378,066) in view of Zolnowsky (6,779,182).

10. Regarding **claim 10**, Lewis teaches of plurality of scheduling domain (col. 3, line 51 – col. 4, line 7) and a system with a run queue but did not teach that each scheduling domain has a separate run queue. Nevertheless, Zolnowsky discloses a system with a scheduler includes a plurality of runnable queues (fig. 5). Therefore, it would have been obvious to one of an ordinary skill in the art, at the time the invention was made to implement Lewis' system with

multiple run queues so that it can enhance the performance with additional run queues supporting multiprocessor system.

11. **Claims 10, 16, 22 and 29** are rejected on the same ground as stated in claim 10 above.

Response to Arguments

12. Applicant's arguments with respect to claims 1, 5, 6, 11, 12, 17, 18, 23 and 24 have been considered but are not persuasive for the reasons set forth below.

13. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a method of solving the problem of synchronizing two tasks sharing a same resource as stated in the filed RCE) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

14. In response to applicant's argument that "Lewis discloses a method of solving data dependency problems among a number of tasks ..." (page 10 1st paragraph), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

15. With respect to applicant argument that Lewis does not teach or suggest "...a scheduling domain associated with at least two tasks and a resource shared by the at least two tasks for implicitly synchronization the at least two with respect to the shared resource" (page 10, 1st paragraph), the examiner disagrees. Lewis discloses that at least one of the scheduling domains being associated with at least two tasks of the set of tasks (col. 3, line 51 – col. 4, line 7: each dependency indicates a relationship between two blocks and requires the portion of the program associated with the one of the two blocks to be executed before the portion of the program associated with the other block. Col. 12 lines 15 – 35: dependency is fixed and Fig. 12A). In other words, a domain is represented by a dependency relationship between the blocks. If a block is independent, does not have any relationship with the other blocks, then itself is a domain. Lewis also discloses a resource shared by the at least two tasks (figs. 8, 9, 10A and 10B, col. 5 lines 50 – 55: "...for each block, the developer specifies the program code to be executed on the values within the block as any dependency between the block and other blocks in the region. Blocks with the same program code are said to share the same 'state'". Col. 12 lines 24 – 46: a set of blocks 1204 (or state)). In other words, the blocks (tasks/function) with the same program code are sharing the same state (resource). The state comprises among other things processor state, the registers value, etc...

If applicant believes these citations do not disclose such teaching or provide proper meaning of the claimed invention, applicant must provide a clear definition and the location of these limitations in the specification.

As noted by the Court of Customs and Patent Appeals, "argument cannot take the place of evidence." In re Langer, 503 F.2d 1380, 1395, 183 USPQ 288, 299 (CCPA 1974). In re

Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785 788 (Fed. Cir. 1984). Applicants have not submitted sufficient evidence to rebut the strong prima facie case of obviousness established by Examiner.

With respect to applicant's remark that "Lewis's column 5. lines 55 – 57 further states that these blocks can generally be executed in parallel because they do not depend on one another for results", applicant to note that the examiner is referring to tasks in different domains and not within the same domain. As stated above that blocks that do not depend on one another are domain themselves. Therefore tasks in different domain can be running concurrently which is read on the claim.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 571-272-3774. The examiner can normally be reached on Thursday from 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist at 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo
Examiner
Art Unit 2195

lv
March 22, 2007

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SUPERVISORY PATENT EXAMINER
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